(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 22 September 2005 (22.09.2005)

(51) International Patent Classification': C07K 16/28,

(21) International Application Number:

PCT/US2005/007857

(22) International Filing Date: 10 March 2005 (10.03.2005)

A61K 39/395, G01N 33/53, C07K 14/72, C12N 5/10

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/552,067 10 March 2004 (10.03.2004) US 60/643,469 13 January 2005 (13.01.2005) US

- (71) Applicant (for all designated States except US): CREIGHTON UNIVERSITY [US/US]; 2500 California Plaza, Omaha, NE 68178 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): WANG, Zhao, Yi [US/US]; 10005 South 11th Street, Bellevue, NE 68123 (US).
- (74) Agent: PROVENCE, David, L.; Mueting, Raasch & Gebhardt, P.A., P.O. Box 581415, Minneapolis, MN 55458-1415 (US).

(10) International Publication Number WO 2005/087811 A3

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- (88) Date of publication of the international search report: 30 March 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



(54) Title: ESTROGEN RECEPTORS AND METHODS OF USE

(57) Abstract: The present invention provides isolated polypeptides having an amino acid sequence having at least 70 % identity to SEQ ID N0:20, wherein the polypeptide has ER-α36 activity. The invention further provides methods for identifying agents that bind to such polypeptides, methods for detecting such polypeptides, and methods for altering the activity of such polypeptides. Also provided are antibodies that specifically bind to an amino acid sequence depicted at SEQ ID NO:1, or an immunogenic fragment thereof, and methods for making and using such antibodies.